

The genus *Quartinia* Ed. André, 1884 (Hymenoptera, Vespidae, Masarinae) in Southern Africa. Part V. New and little known species with incomplete venation

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Abstract

In this publication, the fifth of a projected series revising the Afrotropical species of the genus *Quartinia* Ed. André, 1884 (Hymenoptera: Vespidae: Masarinae), six species with incomplete venation are dealt with. Two new species are described, *aenea* from southern Namibia and *aerosa* from the Northern Cape of South Africa. These two species with greenish-metallic or broze-metallic head and mesosoma are compared with the known and similar looking *helichrysi* (Richards) and *metallescent* von Schulthess. Two further known species are dealt with, namely *capensis* Kohl and *senecionis* (Richards). Extensive collection data pertaining to most of the species contribute to the knowledge of their distribution and floral associations.

Keywords

Southern Africa, taxonomy, floral associations

Introduction

The background to the present state of knowledge of the taxonomy of the genus *Quartinia* Ed. André, 1884 has been fully stated in Gess (2007).

Desirable as it might be to undertake a complete revision of the genus, this is at present not practicable. Rather than to get bogged down in a study which might never

be completed and published, it is intended to publish a series of papers describing new species as well as reviewing some known species. It is envisioned that a new key to species will complete the series. To date Parts I, II and III have been published as Gess (2007), Gess (2008) and Gess (2009).

Quartinia species range in length from a little over 2 mm to 7 mm. In comparison with the great majority of species of other genera of Masarinae even the largest *Quartinia* are relatively small. In view of the considerable range in size shown by species of *Quartinia* and in order to express relative size, categories based on length have been established for species of the genus. These are minute (1.5–2.5 mm); small (2.5–3.5 mm); medium (3.5–4.5 mm); large (4.5–5.5 mm); very large (5.5–6.5 mm) and gigantic (6.5–7.5 mm).

The present paper deals only with species with incomplete venation (*2m-cu* present but attenuate and interrupted). In the past these species would have been placed in *Quartinoides* Richards 1962 but synonymized with *Quartinia* Ed. André by van der Vecht and Carpenter (1990).

Acronyms for institutions in which material is housed are: **AMG** = Albany Museum, Grahamstown, South Africa; **BMNH** = Natural History Museum, London, England.

Taxonomy

A. Species with black head and mesosoma

Quartinia capensis Kohl

http://species-id.net/wiki/Quartinia_capensis

Figs 1–7

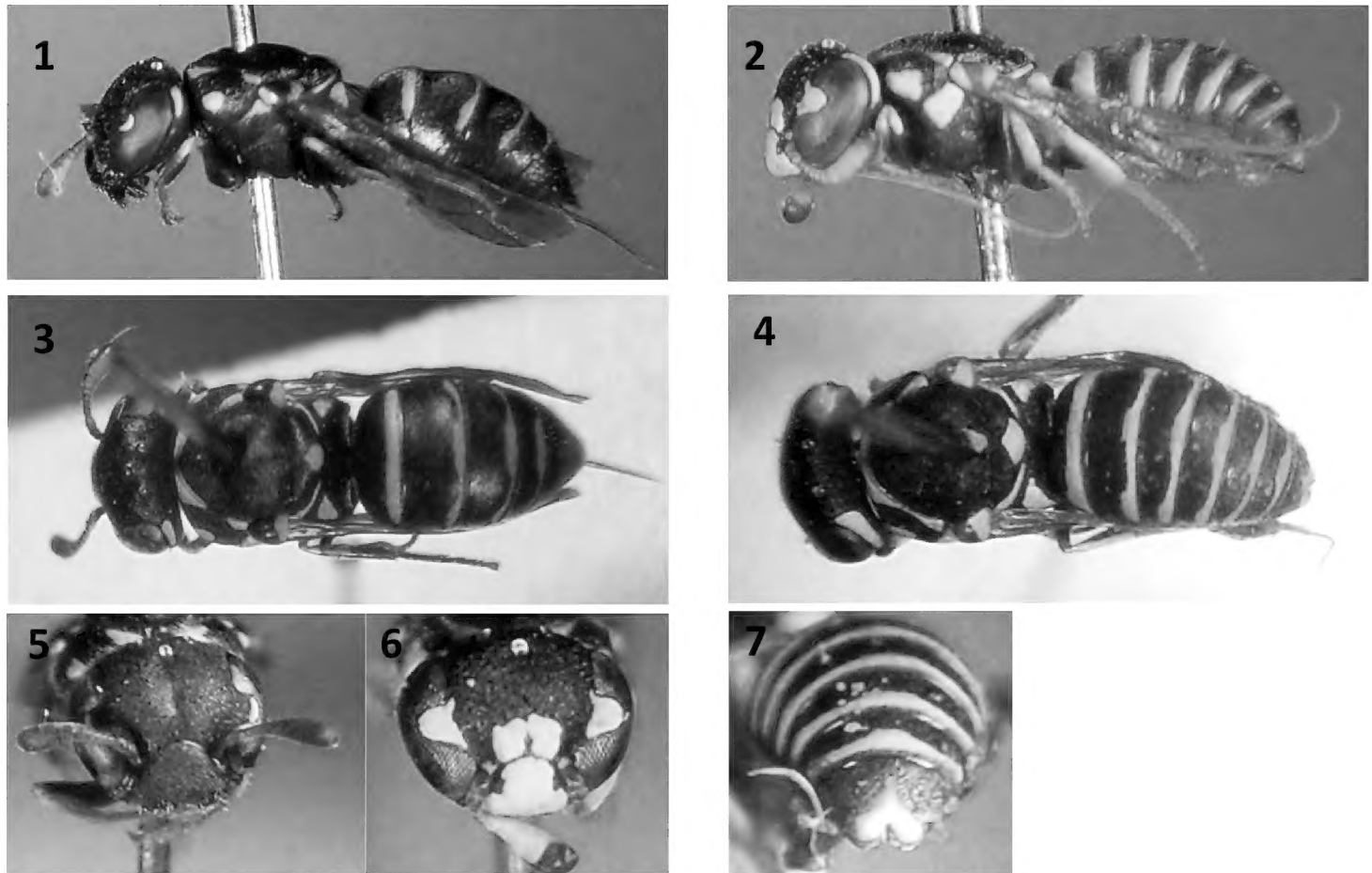
Quartinia capensis Kohl 1898: 365, female. Holotype: female, South Africa: Algoa Bay (Vienna). – von Schulthess 1929 : 504 (key), 508 (listed); von Schulthess 1935: 386 (key), 389 (discussion); Carpenter 2001: 23 (listed).

Quartinoides capensis (Kohl): Richards 1962: 173 and 175 (key), 185 (description of ♀, ♂; discussion).

Quartinia scutellimacula von Schulthess 1929: 504 and 505 (key), 508, male, female. Lectotype; female, South Africa: Mossel Bay (BMNH). – von Schulthess 1930: 327 (key); Richards 1962: 187 (lectotype designation, discussion).

Quartinia capensis scutellimacula von Schulthess: von Schulthess 1935: 386 (key), 389 (discussion).

Diagnosis. Small to medium sized (2.9–3.8 mm). Fore wing with Cu1a and *2m-cu* present but attenuate, much thinner than other veins, and with *2m-cu* interrupted before reaching M. Tegula white anteriorly and posteriorly; posterior inner corner in-



Figures 1–7. *Quartinia capensis* **1** ♀, lateral view (× 13) **2** ♂, lateral view (× 15) **3** ♀, dorsal view (× 13) **4** ♂, dorsal view (× 15) **5** ♀, head, front view (× 16) **6** ♂, head, front view (× 20) **7** ♂, tergum VII, dorsal view (× 22).

wardly produced. Black with white markings. Tibiae of female black except basally, those of male white. Male with labrum, clypeus, pair of large spots ventrally on frons, ocular sinus, streak on temple, underside of flagellomeres (except last flagellomere of club) white; clypeus falling steeply to anterior margin, with a marked median carina on anterior half.

Description. *Female* (previously adequately described) (Figs 1, 3, 5).

Male (previously adequately described) (Figs 2, 4, 6, 7).

Material examined. SOUTH AFRICA: EASTERN CAPE: Skoenmakerskop (34.04S 25.35E) [near Port Elizabeth], 8.xi.2006 (F. W. and S. K. Gess), 4 ♀♀ (visiting white flowers of *Sphalmanthus plenifolius* (N. E. Br.) L. Bol., Aizoaceae: Mesembryanthema); same locality, 24.xi.2008 (F. W. and S. K. Gess), 1 ♀ (visiting white flowers of *Sphalmanthus plenifolius*) [AMG]. WESTERN CAPE: Fransmanspunt (34.18S 21.57E) [near Mossel Bay], 22.i.2002 (F. W. and S. K. Gess), 4 ♀♀, 5 ♂♂ (2 ♀♀, 5 ♂♂ visiting violet flowers of *Limonium scabrum* (Thunb.) Kuntze, Plumbaginaceae); 2 ♀♀ visiting pink flowers of “*Drosanthemum*” sp., Aizoaceae: Mesembryanthema) [AMG].

Floral associations. Aizoaceae: Mesembryanthema (“*Drosanthemum*”, *Sphalmanthus*); Plumbaginaceae (*Limonium*).

Nesting. Unknown.

***Quartinia senecionis* (Richards)**

http://species-id.net/wiki/Quartinia_senecionis

Figs 8–14

Quartinoides senecionis Richards 1962: female, male. Holotype: male, South Africa: Thaba Nchu (BMNH); Gess and Gess 1989: 128 (flower visiting); Gess 1996: 253 (flower visiting).

Diagnosis. Small (2.5–3.0 mm). Fore wing with Cu1a and 2*m-cu* present but attenuate, much thinner than other veins, and with 2*m-cu* interrupted before reaching M. Tegula largely white, with a small brown area antero-medially; posterior inner corner absolutely rounded. Black with yellowish-white markings; mid and hind tibiae and tarsi mostly brown; frons and mesoscutum not appreciably shiny. Male with labrum, clypeus, large trapezoidal mark on frons, bottom of ocular sinus and spot on temple yellowish-white.

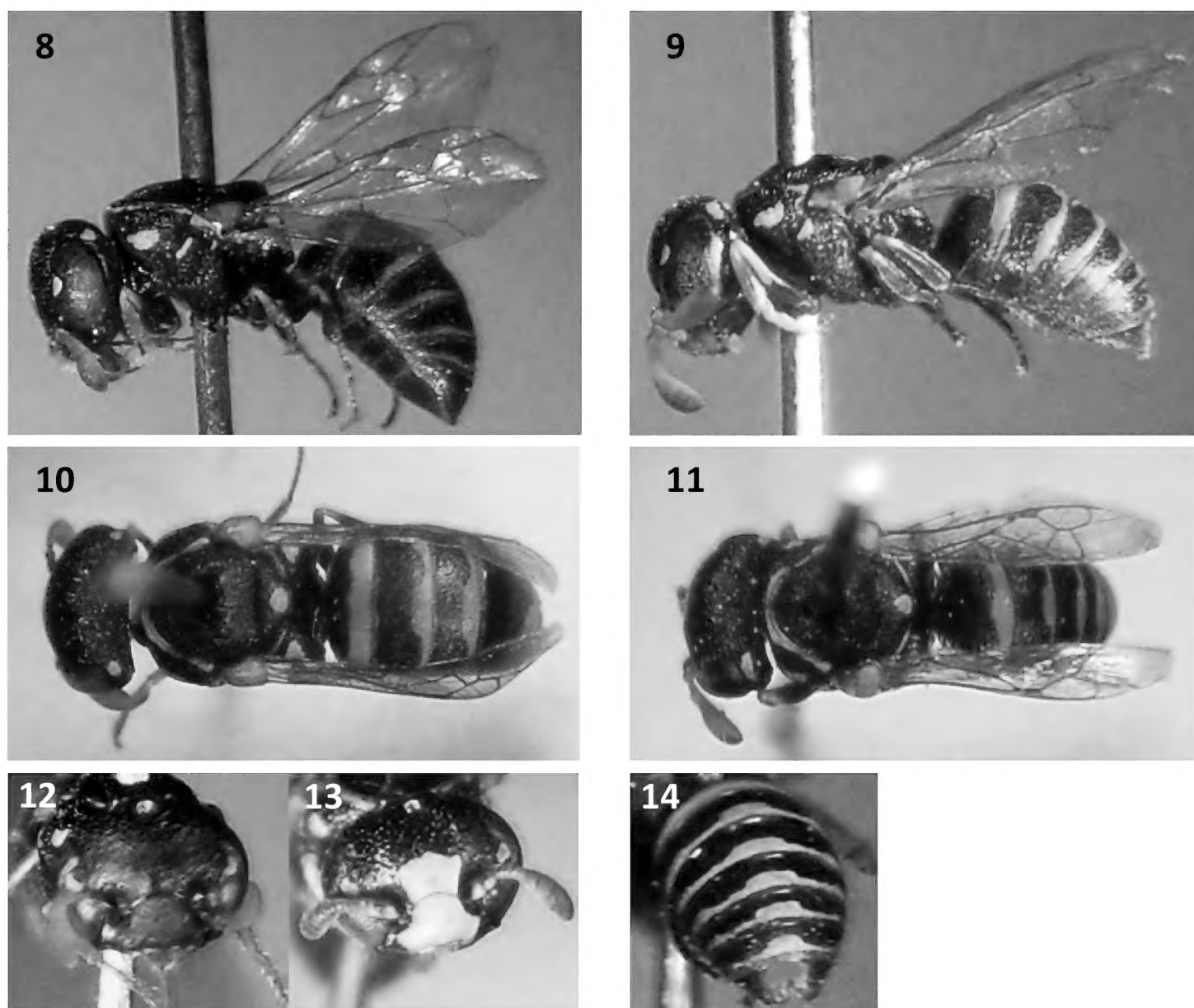
Description. *Female* (previously adequately described) (Figs 8, 10, 12).

Male (previously adequately described) (Figs 9, 11, 13, 14).

Material examined. NAMIBIA: E[ast] of Gamsberg Pass (23.19S 16.31E), 12.iii.1999 (F. W. and S. K. Gess), 3 ♀♀, 1 ♂ (visiting yellow flowers of *Pentzia incana* (Thunb.) Kuntze, Asteraceae). LESOTHO (formerly Basutoland): Mamathes [29.07S 27.49E], 12.xii.1954 (C. Jacot Guillarmod), 6 ♀♀, 1 ♂ paratypes (on flowers of *Felicia muricata* (Thunb.) Nees, Asteraceae) [as *Aster muricatus*]. SOUTH AFRICA: FREE STATE (formerly Orange Free State): Chard, near Ficksburg (28.56S 27.45E), 6–8. xii.2008 (F. W. and S. K. Gess), 16 ♀♀, 2 ♂♂ (visiting flowers, disc yellow, rays mauve, of *Felicia muricata*); Thaba Nchu [29.13S 26.51E], 1.xii.1952 (C. Jacot Guillarmod), 9 ♀♀, 1 ♂ paratypes (on *Senecio laevigatus* Thunb.); S of Ladybrand (29.14S 27.23 E), 9.xii.2008 (F.W. and S. K. Gess), 32 ♀♀, 2 ♂♂ (visiting flowers of *Felicia muricata*); N of Wepener (29.27S 27.13E), 9.xii.2008 (F. W. and S. K. Gess), 1 ♂ (visiting flowers of *Felicia muricata*); 8 km NE Smithfield (30.09S 26.36E), 3.xii.2008 (F. W. and S. K. Gess), 1 ♀ (visiting flowers of *Felicia muricata*); 1 km NE Smithfield (30.11S 26.33E), 3.xii.2008 (F. W. and S. K. Gess), 5 ♀♀, 1 ♂ (visiting yellow flowers of *Pentzia incana*). EASTERN CAPE: Near Aliwal North (30.44S 26.47E), 11.xii.2008 (F. W. and S. K. Gess), 1 ♀, 3 ♂♂ (visiting flowers of *Felicia muricata*) – [all AMG].

Provenance of material examined by Richards (1962). SOUTH AFRICA: FREE STATE: Thaba Nchu [29.13S 26.51E] (on flowers of *Senecio laevigatus* Thunberg). LESOTHO (formerly Basutoland): Mamathes [29.07S 27.49E] (on flowers of *Felicia muricata* [as *Aster muricatus*]; Tebetebeng Mill [circa 29.11S 27.57E (on flowers of *Gazania* sp.).

Geographic distribution. In Namibia the species is known only from E of the Gamsberg Pass in the Highland Savanna of Giess (1971). In South Africa it is known from several localities in the eastern Free State and from one locality in the north-east-



Figures 8–14. *Quartinia senecionis* **8** ♀, lateral view (× 20) **9** ♂, lateral view (× 22) **10** ♀, dorsal view (× 19) **11** ♂, dorsal view (× 19) **12** ♀, head, front view (× 22) **13** ♂, head, front view (× 23) **14** ♂, tergum VII, dorsal view (× 26).

ern Eastern Cape, these localities bordering Lesotho to the west and south respectively. From Lesotho itself it is known from two localities. All these southern localities are in Pure Grassveld, subdivided and characterised by Acocks (1953) as various types (nos. 48, 50 and 56) of *Cymbopogon-Themeda* Veld.

Discussion of distribution. The apparent disjunct distribution, possibly no more than a consequence of a geographical hiatus of collecting, finds a striking parallel in the distribution of *Jugurtia confusa* Richards (see Gess 2004: 691 and Fig. 3f). That species, collected in the Khomas Highlands of Namibia at the same site and date as *Q. senecionis*, exhibits a more extensive development of the pale markings in comparison with specimens from the eastern Free State and Eastern Cape. No such geographical variation is evident with respect to *Q. senecionis*.

Floral associations. Asteraceae (*Felicia*, *Gazania*, *Pentzia* and *Senecio*).

Nesting. Unknown.

B. Species with greenish-metallic or bronze-metallic head and mesosoma

Quartinia aenea sp. n.

urn:lsid:zoobank.org:act:45124B59-75AE-45BE-9E16-81908C6FFC73

http://species-id.net/wiki/Quartinia_aenea

Figs 15–21

Holotype. ♀, NAMIBIA: 10 km west of Aus (26.39S 16.09E), 7.ix.2002 (F. W. and S. K. Gess) (visiting yellow fls of *Leysera gnaphalodes* (L.) L., Asteraceae) [AMG].

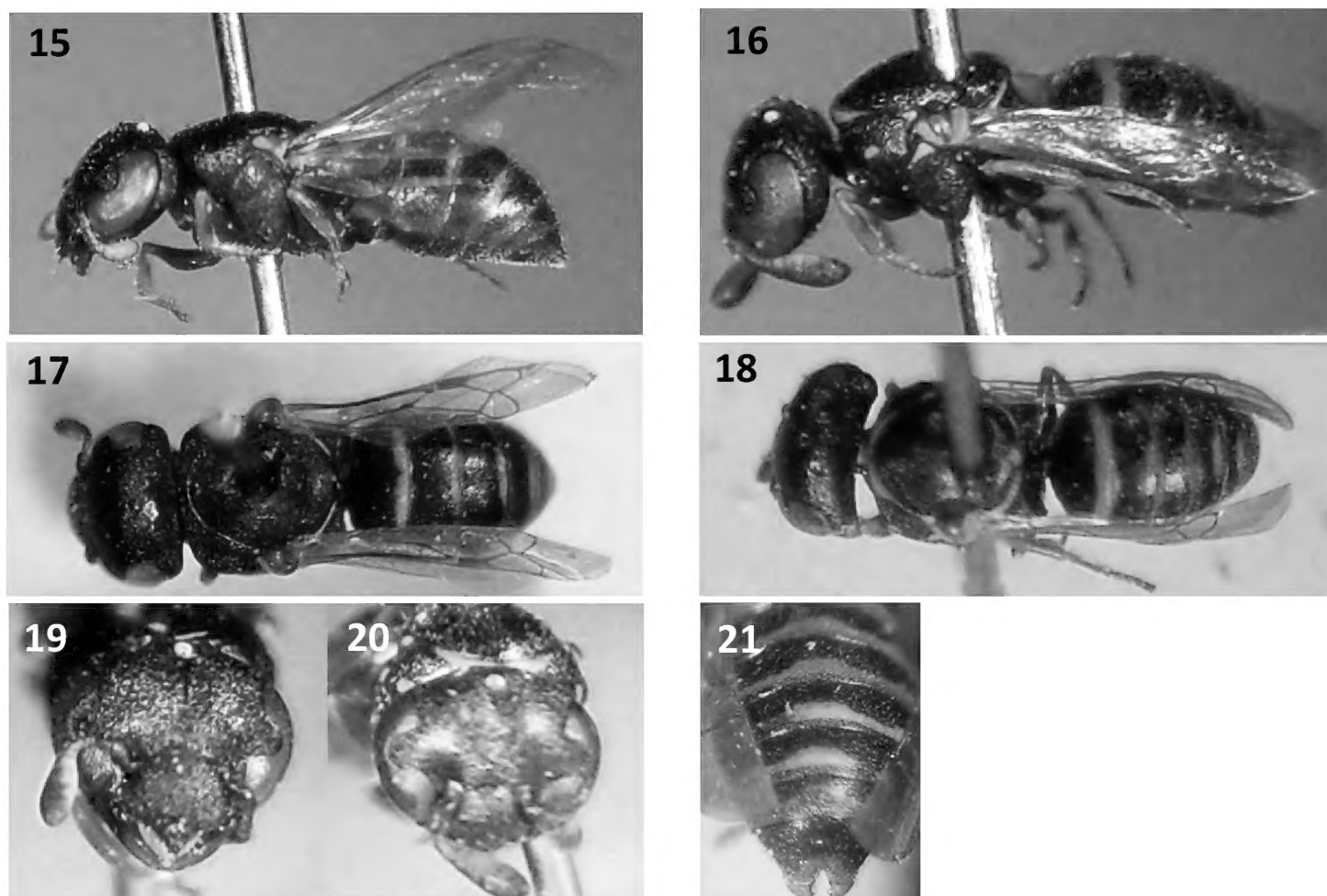
Paratypes: NAMIBIA: c 15 km W Aus on road to Lüderitz[bucht] (26.37S 16.06E), 21.ix.2003, 1 ♂ (visiting yellow fls, Asteraceae); NW Aus, drainage channel (26.37S 16.12E), 17.ix.2005, 1 ♀ (visiting yellow fls *Leysera* [*tenella* DC.], Asteraceae); 10 km west of Aus (26.39S 16.09E), 7.ix.2002, 39 ♀♀, 1 ♂ (visiting yellow fls of *Leysera gnaphalodes* (L.) L., Asteraceae); Klein-Aus Vista (26.39S 16.12 E), 8.ix.2002, 4 ♀♀ (visiting small yellow daisy [*Dimorphotheca polyptera* DC.], Asteraceae); SW Klein-Aus Vista (26.44S 16.10E), 24.ix.2003, 1 ♀ (visiting yellow fls of *Leysera*, Asteraceae) – (all F. W. and S. K. Gess) [all AMG].

Diagnosis. Small (2.7–3.2 mm). Fore wing with *Cu*_{1a} and *2m-cu* present but attenuate, much thinner than other veins, and with *2m-cu* interrupted before reaching M. Head and mesosoma greenish-metallic. Tegula with posterior inner corner inwardly produced and angular, in dorsal view not attaining level of suture between mesoscutum and scutellum. Both sexes with head and dorsum of propodeum lacking white markings.

Description. *Female* (Figs 15, 17, 19): Head and mesosoma dark metallic green with, depending on the angle of illumination, reddish-bronze lustre; gaster black. The following are whitish-yellow: underside of antenna; in a few specimens narrow transverse band, medially interrupted, on anterior margin of pronotum and in all specimens minute spot on postero-dorsal angle of same; tegula anteriorly and posteriorly; a minute to small spot postero-medially on scutellum; scutellar lamella laterally; posterior bands not reaching sides on terga I – IV (that on tergum I widest, those of terga II – IV anteriorly produced medially and laterally). Light ferruginous are: apex of femur of all legs, most of tibia of fore and middle legs, base and apex of hind leg, fore tarsomeres (in part). Darker ferruginous are: mandible distally; upper side of antenna; median band on hind tibia; tarsomeres (in part). Wings very lightly browned, slightly iridescent; veins brown.

Length 3.04–3.2 mm (average of 3: 3.13 mm); length of fore wing 2.1 mm; hamuli 4.

Head in front view 1.24 × as wide as long; microreticulate (shagreened); moderately shiny; with punctures barely discernable. POL: OOL = 1: 0.77. Clypeus 1.6 × as wide as long (to bottom of emargination); dorsal margin exceeding by about diameter of antennal socket level of an imaginary line joining top of antennal sockets; distal margin widely and shallowly emarginate, narrowly laminate.



Figures 15–21. *Quartinia aenea* **15** ♀, lateral view (× 16) **16** ♂, lateral view (× 21) **17** ♀, dorsal view (× 16) **18** ♂, dorsal view (× 16) **19** ♀, head, front view (× 22) **20** ♂, head, front view (× 23) **21** ♂, tergum VII, dorsal view (× 24).

Mesosoma microreticulate (shagreened) like head; moderately shiny; with punctures slightly more obvious than on head.

Gaster finely microreticulate, very indistinctly punctured, moderately shiny.

Male (Figs 16, 18, 20, 21): Coloration and markings as in female, with in addition the following whitish-yellow markings: short band on anterior margin of pronotum; small spot on humeral angle and streak at top of mesopleuron (both in one specimen only); short transverse bands on terga V and VI. Apex of tergum VII and parameres ferruginous. Surface sculpture and puncturation as in female.

Length 2.7 mm; length of fore wing 1.8 mm.

Head $1.28 \times$ as wide as long; POL: OOL = 1: 0.82.

Tergum VII with a deep V-shaped slit; lateral lobes smoothly rounded apically. Sterna atuberculate.

Etymology. The name *aenea*, a Latin female adjective meaning bronze- or ore-coloured, refers to the greenish-metallic appearance of the head and mesosoma.

Geographic distribution. As far as indicated at present the species appears to be restricted to the area around Aus in south-western Namibia, in the Desert and Succulent Steppe of Giess (1971).

Floral associations. Asteraceae (*Dimorphotheca*, *Leysera*).

***Quartinia aerea* sp. n.**

urn:lsid:zoobank.org:act:D773E7CA-B62F-4E53-A0F9-D525C576BAFE

http://species-id.net/wiki/Quartinia_aerea

Figs 22–28

Holotype. ♀, SOUTH AFRICA: NORTHERN CAPE: Sutherland District: Rooikloof Farm (32.26S 20.39E), 8.x.2009 (F. W. and S. K. Gess) (visiting yellow flowers of *Leysera tenella* DC., Asteraceae).

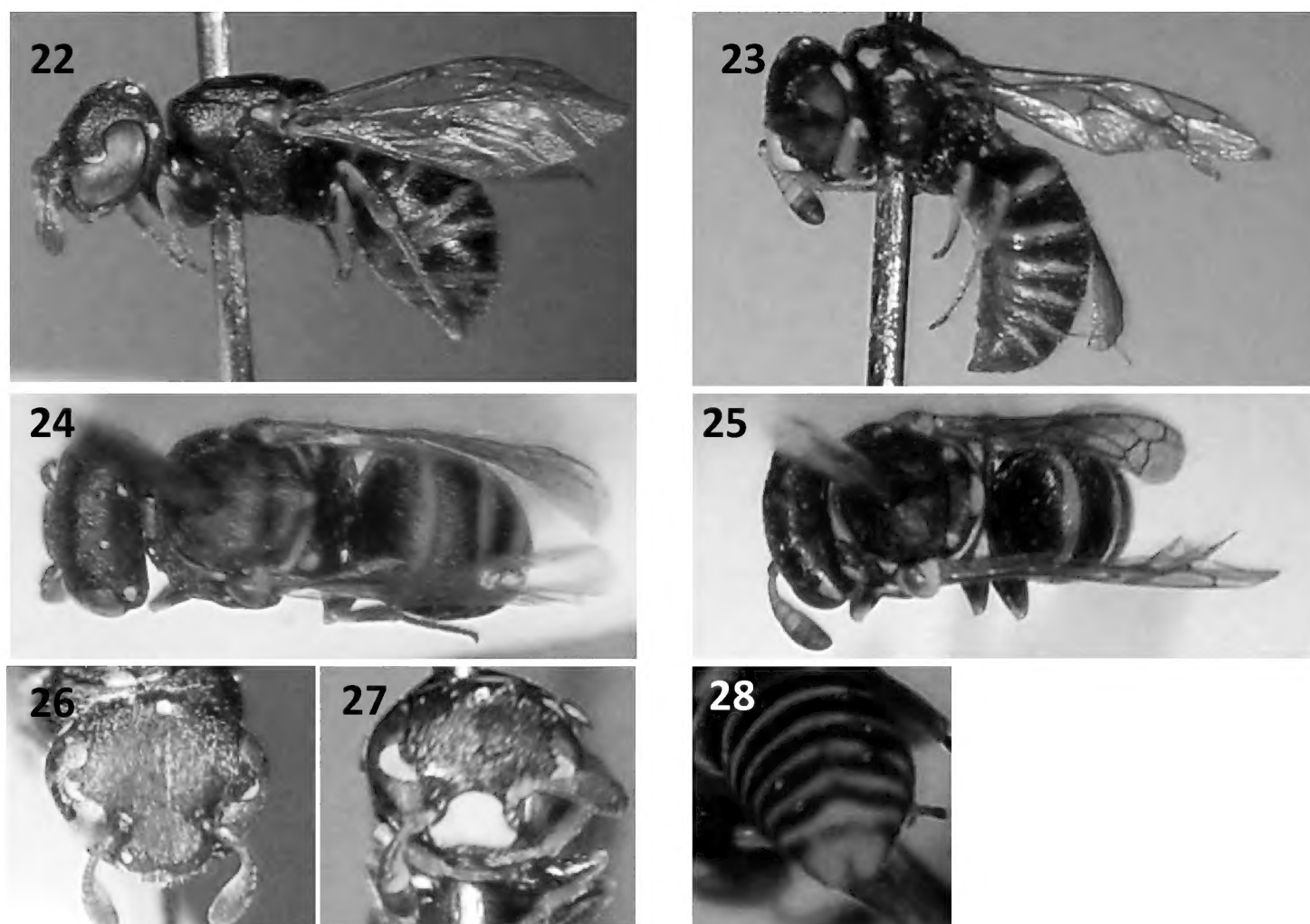
Paratypes: SOUTH AFRICA: NORTHERN CAPE: Sutherland District: Rooikloof Farm (32.26S 20.39E), 1–10.x.2009 (F. W. and S. K. Gess), 21 ♀♀, 6 ♂♂ (12 ♀♀, 4 ♂♂ visiting yellow flowers of *Leysera tenella*; 2 ♀♀, 1 ♂ visiting pale violet flowers of *Wahlenbergia* near *polyclada* A.DC., Campanulaceae; 1 ♀ on ground between flowering plants of *Wahlenbergia* near *polyclada*; 3 ♀♀ from yellow pan trap associated with flowering plants of *Wahlenbergia* near *polyclada* and *Selago* p., Scrophulariaceae); same locality, 10.x.2009 (D. W. Gess), 1 ♀ (visiting pale violet flowers of *Wahlenbergia* near *polyclada*) [all AMG].

Diagnosis. Small (2.8–3.1 mm). Fore wing with Cu1a and 2*m-cu* present but attenuate, much thinner than other veins, and with 2*m-cu* interrupted before reaching M. Head and mesosoma greenish-metallic. Tegula with posterior inner corner inwardly produced and angular, in dorsal view not attaining level of suture between mesoscutum and scutellum. Both sexes with head with white markings (crescent in ocular sinus, spot flanking inner margin of eye, spot on temple behind eye; male with white clypeus. Dorsum of propodeum with yellow marking.

Description. *Female* (Figs 22, 24, 26): Head and mesosoma dark metallic green with, depending on the angle of illumination, reddish-bronze lustre; gaster black but depending upon the angle of illumination with a similar but reduced lustre. The following are whitish-yellow: underside of antennal club; crescent at bottom of ocular sinus; a small spot flanking inner margin of upper part of eye at level of ocelli (in majority of specimens); spot on temple behind top of eye; minute spot at postero-dorsal angle of pronotum; tegula anteriorly and posteriorly; small spot at top of mesopleuron (in majority of specimens); a minute to small transverse spot (tending to be suffused by light ferruginous) postero-medially on scutellum; scutellar lamella laterally; a minute spot to small transverse streak laterally on dorsum of propodeum (in majority of specimens). Yellow, to variable degree suffused by ferruginous (especially laterally), are transverse bands on terga I – V (those on terga II – V slightly anteriorly produced medially and laterally). Various shades of ferruginous are: apical half of mandible; apical third of tergum IV; sterna; apex of femur, part of tibia of all legs.

Length: 3.04–3.08 mm (average of 3: 3.07 mm); length of fore wing: 2.08–2.12 mm (average of 3: 2.09 mm); hamuli 3.

Head in front view 1.3 × as wide as long; POL: OOL = 1: 0.85. Clypeus 1.6 × as wide as long; anterior margin shallowly emarginate; lateral angles rounded.



Figures 22–28. *Quartinia aerosa* **22** ♀, lateral view (× 18) **23** ♂, lateral view (× 24) **24** ♀, dorsal view (× 19) **25** ♂, dorsal view (× 19) **26** ♀, head, front view (× 23) **27** ♂, head, front view (× 24) **28** ♂, tergum VII, dorsal view (× 19).

Head, mesosoma and gaster finely microsculptured (shagreened); punctures everywhere barely discernable.

Male (Figs 23, 25, 27, 28): Head and mesosoma dark metallic green with, depending on the angle of illumination, reddish-bronze lustre; gaster black but depending upon the angle of illumination with a similar but reduced lustre. The following are whitish-yellow: underside of scape, pedicel, intermediate flagellomeres and proximal half of club; most of labrum; entire clypeus (except lamellate distal margin and, in some specimens, area immediately proximal to it); broad crescent at bottom of ocular sinus; small spot flanking inner margin of upper part of eye at level of ocelli; spot on temple behind top of eye; transverse band (in some specimens narrowed medially) on anterior margin of pronotum and small spot on postero-dorsal angle of same; humeral angle; tegula anteriorly and posteriorly; streak at top of mesopleuron; lateral and postero-medial spots on scutellum (lateral spots effaced in one specimen); scutellar lamella laterally; dorsum of propodeum. Yellow, to a variable degree suffused by ferruginous (especially laterally), are transverse bands on terga I – VI (those on terga II – IV slightly anteriorly produced medially and laterally). Various shades of ferruginous are: apical half of mandible; apical half of tergum VII; sterna; apex of femur, most of tibia and proximal three tarsomeres of all legs (last two tarsomeres darker).

Length: 2.8 mm (consistent for 3 specimens); length of fore wing 1.8 mm (consistent for 3 specimens); hamuli 3.

Head in front view $1.3 \times$ as wide as long; POL: OOL = 1: 0.9. Clypeus $1.7 \times$ as wide as long; anterior margin shallowly emarginate; lateral angles rounded.

Tergum VII with a deep V-shaped slit; lateral lobes smoothly rounded apically. Sterna atuberculate.

Etymology. The name *aerosa*, a Latin female adjective meaning ore-coloured, refers to the greenish-metallic appearance of the head and mesosoma.

Geographic distribution. At present known only from the type locality, Rooikloof Farm, near Sutherland, in the Arid Karoo and Desert False Grassveld of Acocks (1953).

Floral associations. Asteraceae (*Leysera*), Campanulaceae (*Wahlenbergia*).

Nesting. Unknown.

Quartinia helichrysi (Richards)

http://species-id.net/wiki/Quartinia_helichrysi

Figs 29–31

Quartinoides helichrysi Richards 1962: 175 (key), 198, female. Holotype: female Lesotho (formerly Basutoland): Mamalapi Mts (BMNH); Carpenter 2001: 25 (listed).

Diagnosis. Small (2.8–3.5 mm). Fore wing with Cu1a and $2m-cu$ present but attenuate, much thinner than other veins, and with $2m-cu$ interrupted before reaching M. Head and mesosoma greenish-metallic. Tegula with posterior inner corner rounded, in dorsal view attaining level of suture between mesoscutum and scutellum. Female (male unknown) with head densely coriaceous, almost without punctures; mesoscutum sparsely punctured. Head with white marking in bottom of ocular sinus only.

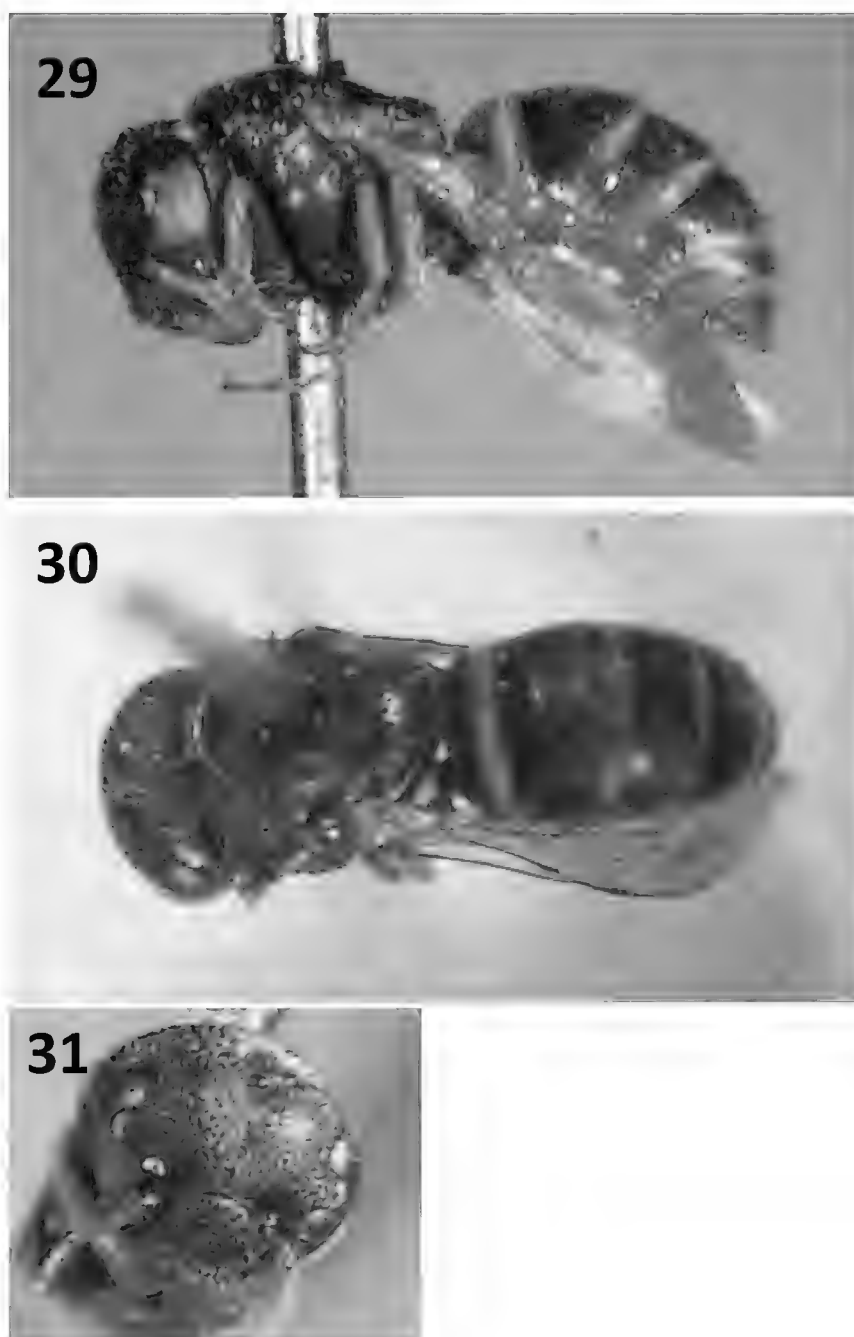
Description. *Female* (previously adequately described) (Figs 29, 30, 31).

Material examined. LESOTHO (formerly Basutoland): Mamalapi Mtn, 28.xii.1948 (C. Jacot Guillarmod), 3 ♀♀ (on flowers of *Helichrysum fulgidum*) [AMG]. These specimens bear determination labels in Richards' handwriting: "*Quartinia* sp. near *metallesens* Schulth." and, though not labelled as such, are clearly the paratypes recorded by Richards (1962: 198) as being in the collection of Mr C. F. Jacot Guillarmod. That collection was in 1958 incorporated by Jacot Guillarmod with that of the Albany Museum.

Geographic distribution. Known only from the single locality in Lesotho.

Floral associations. Asteraceae (*Helichrysum fulgidum* [probably = *Helichrysum aureum* (Houtt.) Merr.]).

Nesting. Unknown.



Figures 29–31. *Quartinia helichrysi* **29** ♀, lateral view (× 17) **30** ♀, dorsal view (× 17) **31** ♀, head, front view (× 22).

***Quartinia metallescens* von Schulthess**

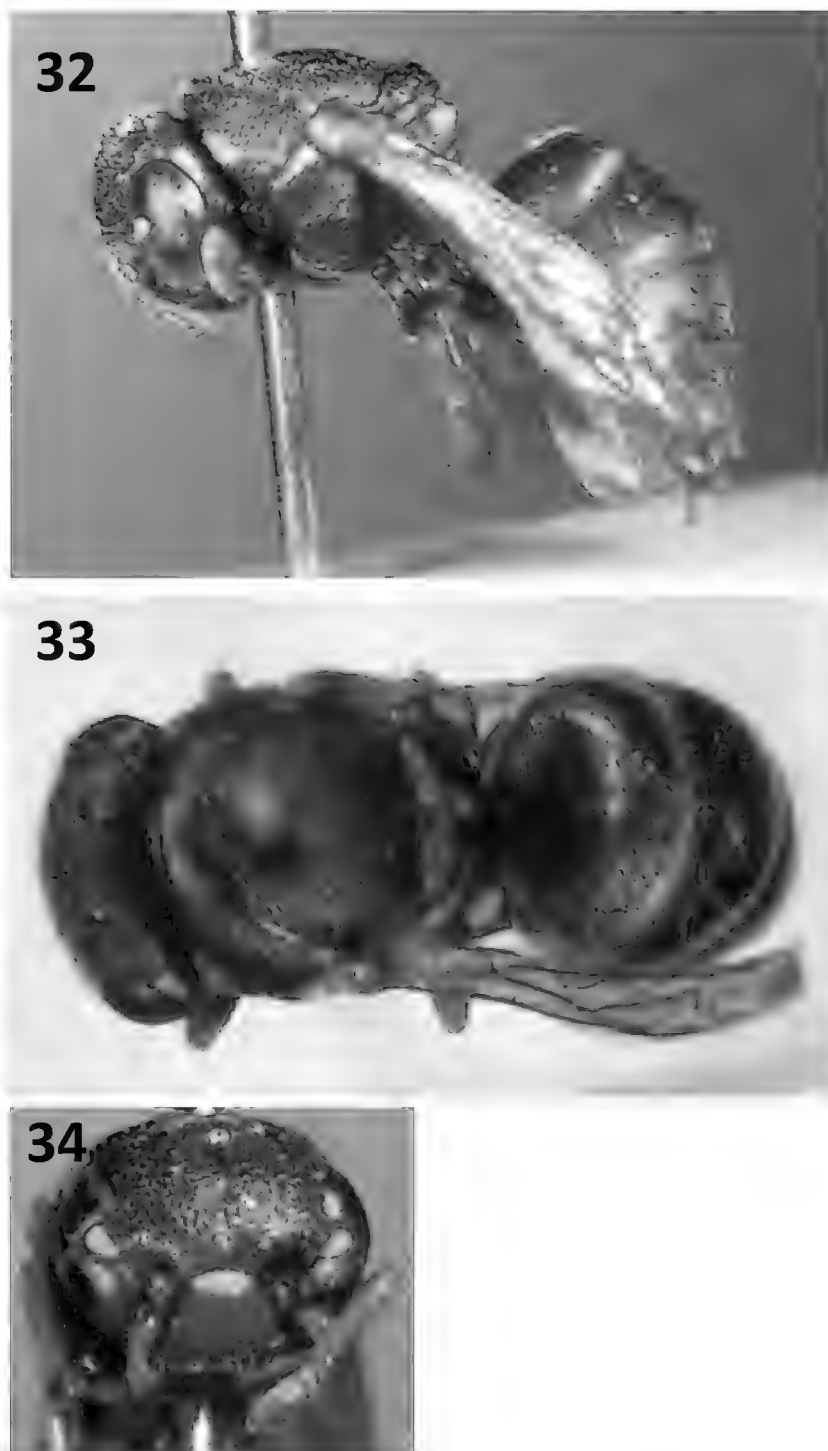
http://species-id.net/wiki/Quartinia_metallescens

Figs 32–34

Quartinia metallescens von Schulthess 1929: 504, 505, female. Holotype: female, South Africa: Queenstown, 3500 feet (BMNH); von Schulthess 1935: 385 (key); Carpenter 2001: 26 (listed).

Quartinoides metallescens (von Schulthess): Richards 1962: 175 (key), 196 (description of female, male).

Diagnosis. Medium sized (3.8–4.2 mm). Fore wing with Cu1a and 2*m-cu* present but attenuate, much thinner than other veins, and with 2*m-cu* interrupted before reaching



Figures 32–34. *Quartinia metallescens* **32** ♀, lateral view (× 15) **33** ♀, dorsal view (× 18) **34** ♀, head, front view (× 19).

M. Head and mesosoma greenish-metallic. Tegula with posterior inner corner rounded, in dorsal view attaining level of suture between mesoscutum and scutellum. Head and thorax both with dense, very shallow, flat-bottomed punctures. Female head with white markings both in bottom of ocular sinus and at top of clypeus. Male head with mandibles, labrum, most of clypeus, lower part of orbits, ocular sinus, two frontal dots adjacent of clypeus and spot behind eye dorsally white.

Description. *Female* (previously adequately described) (Figs 32, 33, 34).

Material examined. SOUTH AFRICA: FREE STATE (formerly Orange Free State): Chard, near Ficksburg (28.56S 27.45E), 6–8. xii.2008 (F. W. and S. K Gess), 1 ♀ (visiting yellow flowers of *Berkheya* sp., Asteraceae) [AMG]. LESOTHO (formerly Basutoland): Mamathes [29.07S 27.49E], 9.xi.1952 (C. Jacot Guillamod), 2 ♀♀* (on flowers of *Gazania longiscapa*); Malubalube Str[ea]m, Teyateyaneng [29.08S 27.43E

], 4.xi.1956 (C. Jacot Guillarmod), 2 ♀♀; Tebetebeng Mill [circa 29.11S 27.57E], 13.xi.1948 (C. Jacot Guillarmod), 1 ♀* (on flowers of *Gazania* sp.) [all AMG].

Provenance of material examined by Richards (1962). SOUTH AFRICA: EASTERN CAPE: Queenstown [31.54S 26.53E], 3500 feet. LESOTHO (formerly Basutoland): Tebetebeng [circa 29.11S 27.57E] (on flowers of *Gazania* sp.); Mamathes [29.07S 27.49E] (on flowers of *Helichrysum* sp. and of *Gazania longiscapa*). In the paragraph above, material examined, the specimens marked with an * bear Richards' determination labels.

Geographic distribution. Known from the type locality in the north eastern Eastern Cape, one locality in the eastern Free State and three localities in Lesotho. All the localities are in Pure Grassveld, subdivided and characterised by Acocks (1953) as various types (nos. 48, 50 and 56) of *Cymbopogon-Themeda* Veld.

Floral associations. Asteraceae (*Berkheya*, *Gazania* and *Helichrysum*).

Nesting. Unknown.

Key to separate species with greenish-metallic or bronze-metallic head and mesosoma

- 1 Tegula relatively long (in dorsal view attaining level of suture between mesoscutum and scutellum), with posterior inner corner rounded **2**
- Tegula relatively short (in dorsal view not attaining level of suture between mesoscutum and scutellum), with posterior inner corner inwardly produced and angular **3**
- 2 Head densely coriaceous, almost without punctures. Mesoscutum sparsely punctured. Female head with white marking in bottom of ocular sinus only. (Male not known.) ***helichrysi* (Richards)**
- Head and thorax both with dense, very shallow, flat-bottomed punctures. Female head with white markings both in bottom of ocular sinus and at top of clypeus. Male head with mandibles, labrum, most of clypeus, lower part of orbits, ocular sinus, two frontal dots adjacent of clypeus and spot on temple behind eye white ***metallesens* (Schulthess)**
- 3 Both sexes with head and dorsum of propodeum lacking white markings ***aenea* Gess**
- Both sexes with head with white markings (crescent in ocular sinus, spot flanking inner margin of eye, spot on temple behind eye; male clypeus). Dorsum of propodeum with yellow marking ***aerosa* Gess**

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References

- Acocks JPH (1953) Veld types of South Africa. *Memoirs of the Botanical Survey of South Africa* 29: i – iv, 1–192.
- André Ed (1884) *Spécies des Hyménoptères d'Europe et Algérie*. Vol. 2. André and André, Beaune.
- Carpenter JM (2001) Checklist of the subfamily Masarinae (Hymenoptera Vespidae. *American Museum Novitates* 3325: 1–39. doi: 10.1206/0003-0082(2001)325<0001:COSOTS>2.0.CO;2
- Gess FW (2004) A revision of the Afrotropical species of the genus *Jugurtia* de Saussure, 1854 (Hymenoptera: Vespidae: Masarinae). *Journal of the Kansas Entomological Society* 77: 669–720. doi: 10.2317/E-27.1
- Gess FW (2007) The genus *Quartinia* Ed. André, 1884 (Hymenoptera: Vespidae: Masarinae) in southern Africa. Part I. Description of new species with complete venation. *Journal of Hymenoptera Research* 16: 211–233.
- Gess FW (2008) The genus *Quartinia* Ed. André, 1884 (Hymenoptera: Vespidae: Masarinae) in southern Africa. Part II. A new species with complete venation and with a deeply excised antennal club in the male. *Journal of Hymenoptera Research* 17: 83–85.
- Gess FW (2009) The genus *Quartinia* Ed. André, 1884 (Hymenoptera: Vespidae: Masarinae) in southern Africa. Part III. New and little known species with incomplete venation. *Journal of Hymenoptera Research* 18: 244–281.

- Gess FW, Gess SK (1989) Flower visiting by masarid wasps in southern Africa (Hymenoptera: Masaridae). *Annals of the Cape Provincial Museums (Natural History)* 18: 95–134.
- Gess SK (1996) *The Pollen Wasps: Ecology and Natural History of the Masarinae*. Harvard University Press, Cambridge, Massachusetts, 340 pp.
- Giess W (1971) A preliminary vegetation map of South West Africa. *Dinteria* 4: 1–114.
- Kohl FF (1898) Über neue Hymenopteren. *Természetrizsi füzetek* 21: 325–367.
- Richards OW (1962) A revisional study of the masarid wasps (Hymenoptera, Vespoidea). *British Museum (Natural History)*, London, 294 pp.
- Schulthess A von (1929) Contribution to the knowledge of African Masaridae (Vespoidea). *Annals and Magazine of Natural History* (10) 3: 498–511.
- Schulthess A von (1930) Some more South African Masaridae (Vespoidea). *Annals and Magazine of Natural History* (10) 5: 326–330.
- Schulthess A von (1935) Some more South African Masaridae (Vespoidea). *Annals and Magazine of Natural History* (10) 16: 383–390.
- Vecht J van der, Carpenter JM (1990) A catalogue of the genera of the Vespidae (Hymenoptera). *Zoologische Verhandelingen* 260: 1–62.

